



Test Report: 3W07058

Applicant: Instantel Inc.
309 Legget Drive
Kanata Ont.
K2K 3A3

**Equipment Under Test:
(EUT)** WatchMate
217MHz Transmitter

FCC ID: ISEESC

In Accordance With: **FCC Part 15, Subpart C, 15.231**

Tested By: Nemko Canada Inc.
303 River Road, R.R. 5
Ottawa, Ontario K1V 1H2



Authorized By: Kevin Carr, EMC Specialist

Date: 21 April 2003

Total Number of Pages: 16

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EQUIPMENT: WatchMate, 217MHz Transmitter

Section 1. Summary of Test Results

General

All measurements are traceable to national standards.

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15, Subpart C. All tests were conducted using measurement procedure ANSI C63.4-1992. Radiated emissions are made on an open area test site. A description of the test facility is on file with the FCC.

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE.

See "Summary of Test Data".



TESTED BY: _____
Glen Westwell, Wireless Technologist

DATE: 15 April 2003

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This report applies only to the items tested.

EQUIPMENT: WatchMate, 217MHz Transmitter

Summary Of Test Data

Name of Test	Para. Number	Results
Transmission Requirements	15.231(a)	Complies
Radiated Emissions	15.231(b)	Complies
Occupied Bandwidth	15.231(c)	Complies
Frequency Tolerance	15.231(d)	NA
Periodic Alternate Field Strength Requirements	15.231(e)	NA
Powerline Conducted Emissions	15.207	NA

Note: This device is powered by a 3.6Vdc lithium cell.

Test Conditions:

Indoor Temperature: 20°C
 Humidity: 20%

Outdoor Temperature: 15°C
 Humidity: 5%

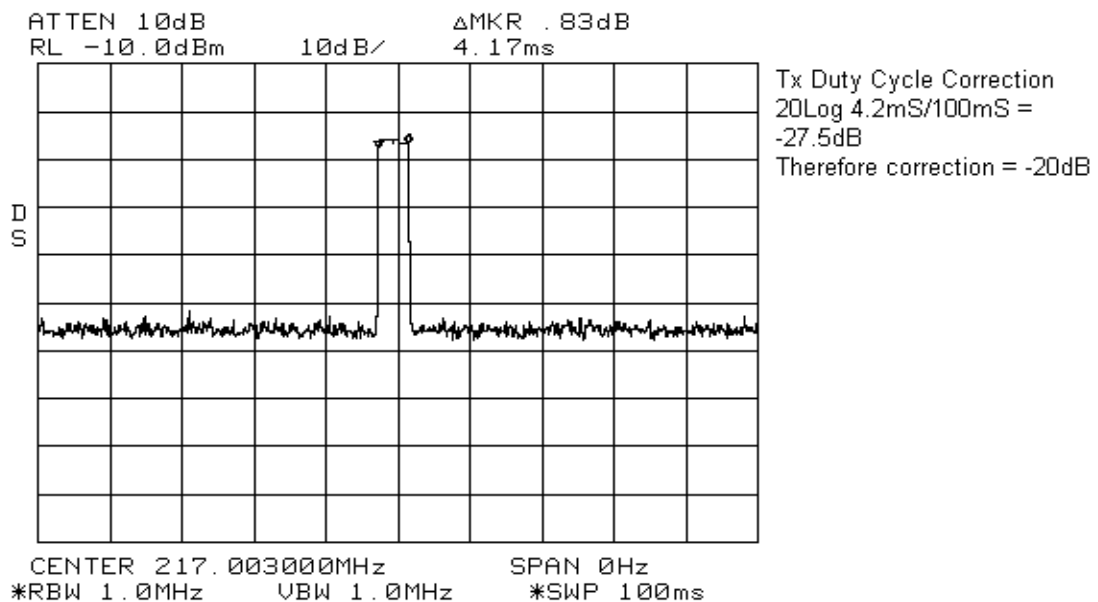
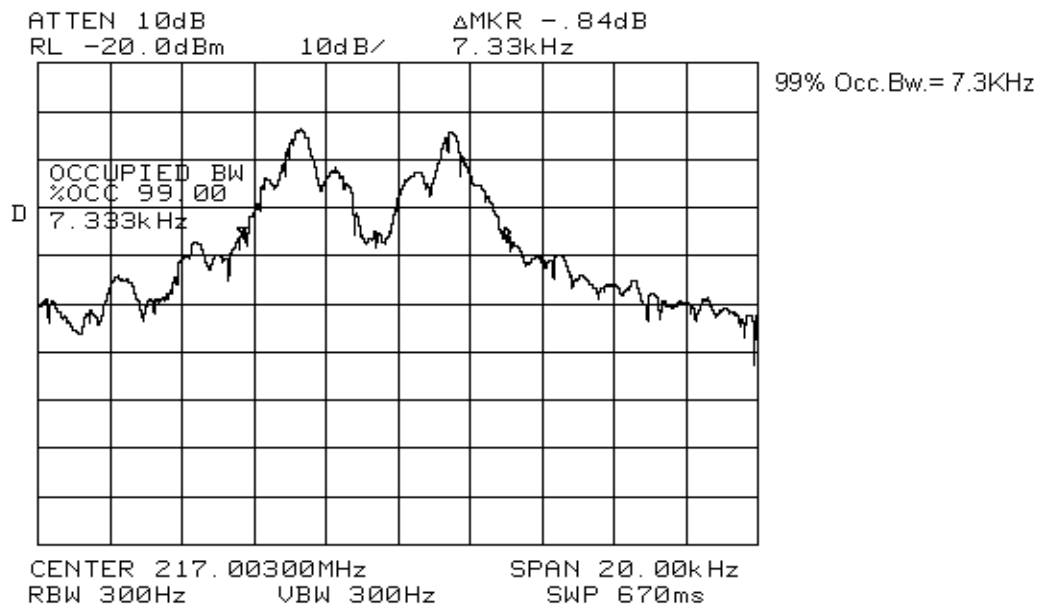
EQUIPMENT: WatchMate, 217MHz Transmitter

Section 2. Equipment Under Test

General Equipment Information

Manufacturer:	Instantel Inc.
Model No.:	803A0901
Serial No.:	A3
Date Received In Laboratory:	15 April 2003
Nemko Identification No.:	1
Modulation:	FSK
Emission Designator:	7K3L1D
Transmit Frequency:	217.003 MHz Fixed

EQUIPMENT: WatchMate, 217MHz Transmitter



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Section 3. Transmission Requirements

Para. No.: 15.231(a)

Test Performed By: Glen Westwell

Date of Test: 15 April 2003

Minimum Standard: 15.231(a) Continuous transmissions such as voice, video or data transmissions are not permitted.

15.231(a)(1) A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds after being released.

15.231(a)(2) A transmitter activated automatically shall cease transmission within 5 seconds of activation.

15.231(a)(3) Periodic transmissions at regular pre-determined intervals are not permitted. However polling or supervisory transmissions to determine system integrity of transmitters used in security or safety applications are allowed if the periodic rate of transmission does not exceed one transmission of not more than one second duration per hour for each transmitter.

15.231(a)(4) Intentional radiators which are employed for radio control purposes during emergencies involving fire, security, and safety of life, when activated to signal an alarm, may operate during the pendency of the alarm.

Test Results: Complies

Test Data: Compliance was determined by verification of technical specifications and a functional test on the equipment.

EQUIPMENT: WatchMate, 217MHz Transmitter

Rationale for Compliance with Transmission Requirements

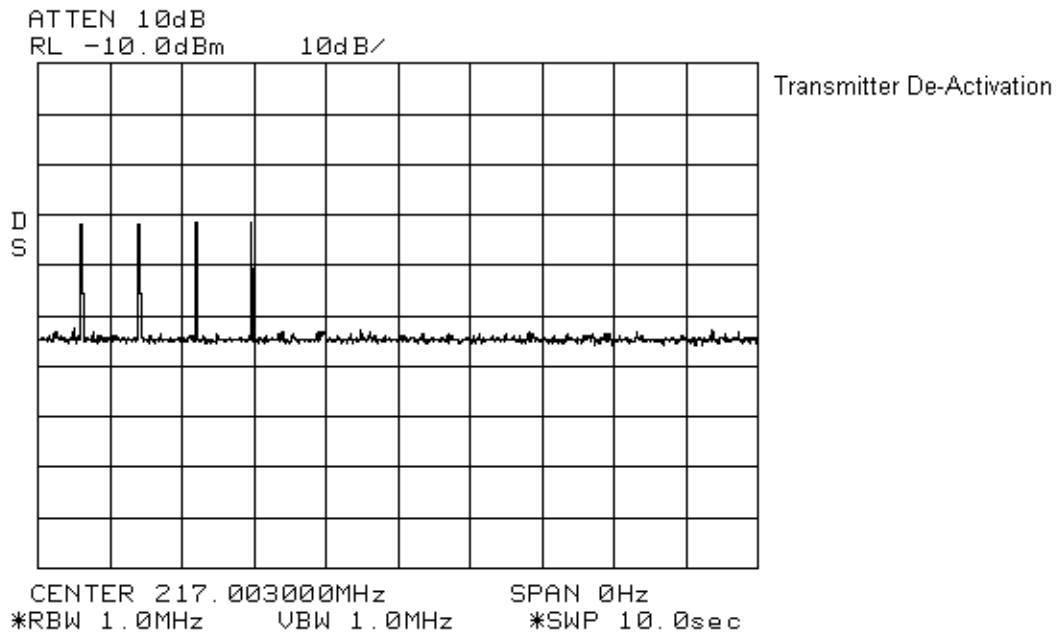
15.231(a)(1) : The transmitter is deactivated immediately after release of push button.

15.231(a)(2) : No automatic activation.

15.231(a)(3) : There is no provision for regular periodic transmission.

15.231(a)(4) : N/A.

EQUIPMENT: WatchMate, 217MHz Transmitter



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Section 4. Radiated Emissions**Para. No.: 15.231(b)****Test Performed By: Glen Westwell****Date of Test: 15 April 2003****Minimum Standard:**

Fundamental Frequency (MHz)	Field Strength of Fundamental ($\mu\text{V/m}$ @ 3m)	Field Strength of Spurious Emissions ($\mu\text{V/m}$ @ 3m)
40.66 - 40.70	2,250	225
70-130	1, 250	125
130-174	1,250 to 3,750*	125 to 375
174-260 (note 1)	3,750	375
260-470 (note 1)	3,750 to 12,500*	375 to 1,250
Above 470	12,500	1,250

Test Results: Complies

Test Data: As per attached tabulated data.
Emissions were search on 3 orthogonal axis with a fresh battery.
All emissions up to the 10th harmonic were searched.

EQUIPMENT: WatchMate, 217MHz Transmitter

Radiated Emissions											
Freq. (MHz)	Ant.	Pol. V/H	RCVD Signal (dBμV)	Ant. Factor (dB)	Amp. Gain (dB)	Cable Loss (dB)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Amp.
217.0030	BC1	H	40.4	15.3	N/A	1.8	57.5	71.5	14.0	Q-Peak	N/A
217.0030	BC1	V	34.0	15.9	N/A	1.8	51.7	71.5	19.8	Q-Peak	N/A
72.3300	BC1	H	15.1	8.3	N/A	1.0	24.4	51.5	27.1	Q-Peak	N/A
72.3300	BC1	V	16.7	8.6	N/A	1.0	26.3	51.5	25.2	Q-Peak	N/A
144.6600	BC1	V	16.1	13.2	N/A	1.5	30.8	51.5	20.7	Q-Peak	N/A
144.6600	BC1	H	22.1	13.2	N/A	1.5	36.8	51.5	14.7	Q-Peak	N/A
434.0060	LP1	V	30.2	16.4	N/A	2.7	49.3	51.5	2.2	Q-Peak	N/A
434.0060	LP1	H	27.7	17.0	N/A	2.7	47.4	51.5	4.1	Q-Peak	N/A
651.0090	LP1	H	15.6	20.9	N/A	3.3	39.8	51.5	11.7	Q-Peak	N/A
651.0090	LP1	V	25.8	20.8	N/A	3.3	49.9	51.5	1.6	Q-Peak	N/A
Note 1: Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole											
Note 2: Detector Legend: Q-Peak = 120 kHz RBW, Average = 1.0 MHz RBW											
Notes:											

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Section 5. Occupied Bandwidth

Para. No.: 15.231(c)

Test Performed By: Glen Westwell

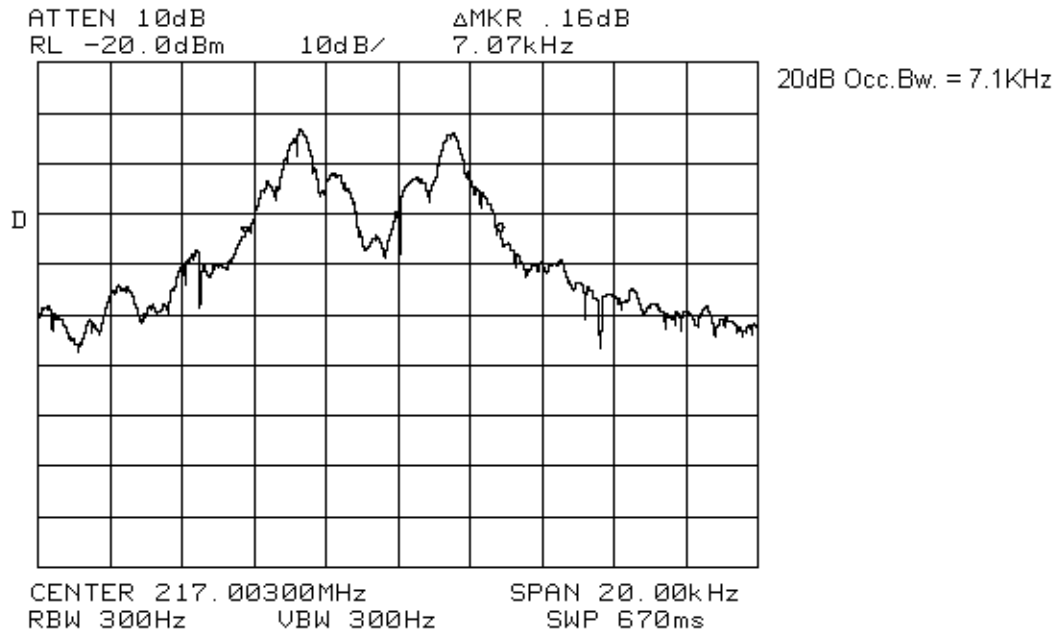
Date of Test: 15 April 2003

Minimum Standard: 15.231(c) The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

Test Results: Complies

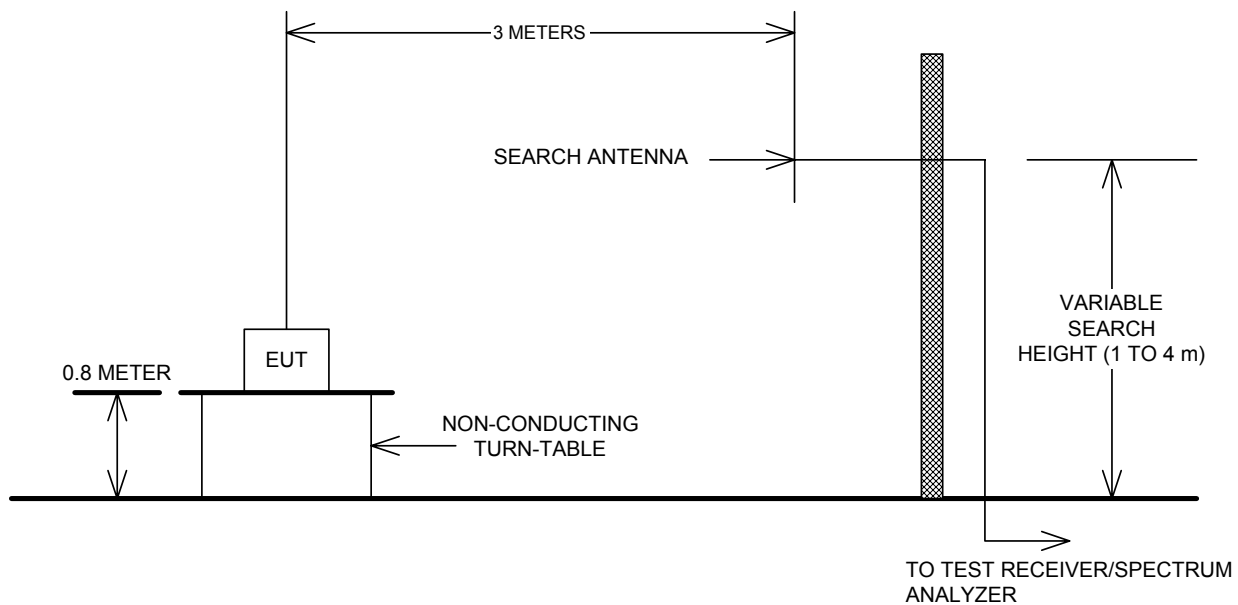
Test Data: See attached graph.

EQUIPMENT: WatchMate, 217MHz Transmitter



Section 6. Block Diagrams

Outdoor Test Site For Radiated Emissions



The spectrum was searched up to the 10th harmonic of the fundamental frequency of operation.

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Section 7. Test Equipment List**WIRELESS RADIO TEST EQUIPMENT LIST**

CAL CYCLE	EQUIPMENT	MANUFACTURER	MODEL	SERIAL	LAST CAL.	NEXT CAL.
1 Year	Receiver	Rohde & Schwarz	ESVS-30	FA001437	July. 04/02	July. 04/03
1 Year	Spectrum Analyzer	Hewlett Packard	8565E	FA000981	15 Jul 02	15 Jul 03
1 Year	Log Periodic Antenna #1	EMCO	LPA-25	FA000477	Aug. 23/02	Aug. 23/03
1 Year	Biconical (1) Antenna	EMCO	3109	FA000805	Aug. 22/02	Aug. 22/03
1 Year	Dipole Antenna Set	EMCO #1	3121C	FA000814	May. 06/02	May. 06/03